

# Bio-Pharmaceutical Sciences

## Master of Science

In the Bio-Pharmaceutical Sciences master's programme you are trained at the leading edge of drug-design and fundamental research into novel drugs, optimization of existing drugs, and personalised medicine.

Despite major advances in drug-research, many common diseases such as cancers, neurological diseases, cardiovascular disease and other auto-immune diseases, lack effective treatment, or are found incurable. The master's programme in Bio-Pharmaceutical Sciences trains you for a scientific career in drug research and development, so in the future you can contribute to the cure of these diseases. Depending on your interest, you can choose from three different research specialisations. In the second year, you may continue in research or you may also switch to a non-research specialisation.

### Why study BPS at Leiden University?

- You are trained by internationally acknowledged scientists of the Leiden Academic Centre for Drug Research (LACDR; [www.lacdr.nl](http://www.lacdr.nl)) – one of the world leading academic pharmaceutical research groups.
- We offer you a research-oriented programme in which you can specialize in different areas in the wide spectrum of drug research; from the discovery of novel drug targets, the design of safe and effective small molecule drugs and biologicals and novel ways to administer these drugs, to new computational



approaches for cheminformatics and translational and clinical pharmacology.

- The programme offers flexibility and tailoring to meet your individual scientific interests and career aspirations.

### Facts and figures

Language	English
Duration	2 years
Degree	Master of Science
Start	September, Februari
Application deadlines	Start September: 1 April non-EU/15 June EU Start February: 15 October non-EU/1 December EU
Tuition fee	€ 2,078 EU/18,300 non-EU

### More information

For more information please visit our website or contact the programme:

[masters.universiteitleiden.nl/bps](http://masters.universiteitleiden.nl/bps)  
[studyadvisorbps@lacdr.leidenuniv.nl](mailto:studyadvisorbps@lacdr.leidenuniv.nl)



**Universiteit  
Leiden**  
The Netherlands

Discover the world at Leiden University

# Bio-Pharmaceutical Sciences: specialisations and programme overview

The research specialisations are considered to be default specialisations of the master BPS. Students following the research specialisations continue their research training in the second year. Student's opting for a non-research specialisation are admitted after the successful completion of their first year of the master's programme.

## Specialisations

### BioTherapeutics (research)

You are focusing on the development of new therapeutic approaches to treat immune-based disorders, such as atherosclerosis. You are trained to identify drugable checkpoints in the immune system, to design new concepts to manipulate these checkpoints, using biologics such as vaccines and therapeutic proteins and learn to design cutting-edge formulations and novel technologies to administer biologics.

### Drug Discovery and Safety (research)

You are focusing on drug target and drug lead discovery and the efficacy and safety of new drugs. We offer education into advanced systems microscopy technologies and clinically relevant model systems for target and drug screening, for example in cancer, in combination with cheminformatics for development of novel and safe drug leads.

### System Biomedicine and Pharmacology (research)

You are focusing on the design of personalised medicine strategies, and development of new systems-based approaches in translational and clinical pharmacology. Hereto cutting-edge experimental training in the field of systems biology and analytical biosciences, will be combined with quantitative pharmacology education in the area of computational modelling of pharmacokinetic and pharmacodynamic relationships.

### Industrial Pharmacy (in Dutch, max. 2 selected participants):

This specialisation trains you in quality control and safety in the production of medicinal products, and prepares you for a career in Quality Assurance and Quality Control in the biotechnological and pharmaceutical industry.

### Bio-Pharmaceutical Sciences and Business Studies (BS)

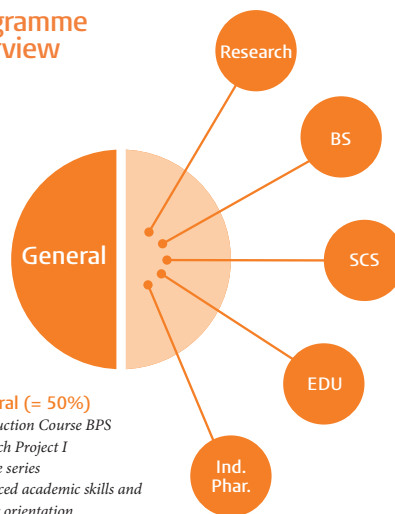
Combine training in BPS research with education in business and entrepreneurship.

### Bio-Pharmaceutical Sciences and Science Communication and Society (SCS)

Combine BPS research with training in different aspects of science communication, such as journalism.

### Bio-Pharmaceutical Sciences and Education (EDU) (taught partly in Dutch): Prepare yourself for a career in teaching.

## Programme overview



### General (= 50%)

Introduction Course BPS  
 Research Project I  
 Lecture series  
 Advanced academic skills and career orientation

### Specialisation (= 50%)

- 50% Research:** *Optional courses • Research Project 2 • Lit. Study*
- 50% BS:** *Compulsory BS courses • Business Internship • Internship extension/Optional courses • Optional courses*
- 50% SCS:** *SCS fundamentals • Internship Scientific Communication • Internship extension/Comm. Electives • Communication Electives*
- 50% EDU:** *Educat. Theory & Teaching Meth. • Specialisation Bio/Chem • Teaching Practice • Prof. Development*
- 50% Ind. Phar.:** *QA/QC fundamentals • QA/QC internship • QA/QC essay*

= 100% Master Bio-Pharmaceutical Sciences